

# “Research Study of River Information Services on the US Inland Waterway Network

## 4<sup>TH</sup> INTERIM REPORT

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## 1 PROJECT AT A GLANCE

Project Volume:	USD 155,540.00
Project Start:	July 6, 2010
Project End:	September 27, 2012
Project Report:	No. 4/5 (month 20)
Reporting Period:	May. 1, 2011 – Feb. 29, 2012 (10 months)
Technical Status:	
Financial Status:	
Current Invoice:	USD 59,357.25
Outstanding costs:	USD 46,929.07
Final Report:	September 28, 2012 month 27

## 2 ABSTRACT

During the fourth reporting period the cooperation partners mainly dealt with the specification of the LOMA 2.0 system. The related activities comprised the elaboration of design documents together with the supplier as well as the coordination of user requirement with important stakeholders.

Further the project management interface with the LOMA 2.0 supplier required additional efforts due to frequent changes of the supplier's project manager and general lack of proper use of adequate PM tools.

A common kick-off meeting with the system supplier has been held in May 2011, followed by regular weekly web meetings.

### 3 TECHNICAL STATUS

The work done in the fourth reporting period concentrated on the activities 2, 3 and 4 according to contract attachment 5, article 1. The progress to date on research milestones, as well as the identified challenges/problems are reported in relation to the proposed activities.

#### 3.1 Activity 2, Definition of the user requirement and sources of resistance to technology adoption

Besides regular contact with beta testers out of the group of lock operators, close contact was held with the IMTS working group.

Further contacts have been made with major stakeholders from the industry, namely ports and tow companies.

Highlight in the reporting period was the LOMA workshop held during the Smart Rivers '11 conference in New Orleans in September 2011.

A key element for the sustainability of the LOMA design was the continuous alignment of LOMA specifications with the Nation Wide AIS System (NAIS) of the US Coast Guard (USCG).

#### 3.2 Activity 3, Cooperative development of a RIS/LOMA specification

The activity started in the current reporting period with a kick-off workshop with the system supplier held from May 10 to May 12, 2011 in Vicksburg MS. The goal of this workshop was to agree on the finalization of the LOMA 1.0 project and the detailed planning of the LOMA 2.0 project. Further the scope of LOMA 2.0 has been clarified in detail, based on the Scope of Work (SOW).

The next step was to reach a common agreement on the tools for the detailed design and development of LOMA 2.0.

A "Product Requirement Specification" (PRS) contained the initial high level translation of the functionalities described in the SOW into technical requirements. The high level requirements were finalized in the "Requirements Traceability Matrix" (RTM) which was used to make sure that no functionalities were lost from SOW to development. The RTM was finalized under intensive cooperation between USACE supported by via donau and the supplier in September 2011 in Baltimore.

Based on the PRS and RTM detailed "Project Requirements Documents" (PRDs) have been developed for more complex functionalities. 9 PRDs have been under review and discussion between USACE, supported by via donau and the supplier and were finalized end of February 2012.

To enhance the value of LOMA to tow captains, USACE and via donau created two draft AIS Application Specific Messages to transmit the current dam and lock status to onboard AIS units. The usability and the benefit of those messages will be evaluated during LOMA operations.

Major obstacles for a quick freeze of requirements were:

- Continuous involvement of beta users and incorporation of their feedback;
- Ongoing development of Application Specific Messages (ASMs) in the international field of e-Navigation;
- Additional efforts to make the system pass the USACE-IT DIACAP approval process and
- late identification of open issues by the supplier.

Besides the technical tasks carried out, lots of efforts were necessary on the project management interface to the supplier, as the planning and risk management of on supplier side was behind expectations.

### 3.3 Activity 4, Cooperative evaluation of LOMA acceptance

The Test Case Plan for LOMA 1.0 provided by the supplier has been reviewed by USACE and via donau and finally approved after several revisions.

Finally the LOMA 1.0 system has been declared as officially accepted in August 2011.

All open items from LOMA 1.0 have been tracked in an "Open Items List" and were incorporated into the LOMA 2.0 specification.

Based on the lessons learnt from LOMA 1.0 acceptance the first discussion on preparation of LOMA 2.0 acceptance procedures have started in February 2012.

### 3.4 Status of collaborative activities

A common kick-off workshop for LOMA 2.0 has been held in May 2011, followed by a workshop in September where the RTM document has been finalized.

During the following Smart Rivers conference in September 2011 common dissemination and involvement of various stakeholders has been successfully accomplished.

## 4 BUSINESS STATUS

The following tables provide an overview of the resources spent to date in comparison to the numbers given in the Agreement.

Phase	Project Month	Amount spent	Amount planned	Deviation
1st Interim Report	4	19.210,54	30.677,00	-11.466,46
2nd Interim Report	7	23.682,15	46.954,00	-23.271,85
3rd Interim Report	10	6.360,99	22.677,00	-16.316,01
4th Interim Report	20	59.357,25	47.232,00	12.125,25
Final Report	27		8.000,00	
<b>Total</b>		<b>108.610,93</b>	<b>155.540,00</b>	<b>-38.929,07</b>

current reporting period

Table 4-1: Resource overview

Phase	Project Month	Labor Costs	International Travel	Domestic Travel	Indirect Costs	Amount spent	Amount planned	Deviation
1st Interim Report	4	7.890,23	5.129,80	1.866,42	4.324,09	<b>19.210,54</b>	30.677,00	-11.466,46
2nd Interim Report	7	9.737,61	5.977,76	2.837,52	5.129,26	<b>23.682,15</b>	46.954,00	-23.271,85
3rd Interim Report	10	4.119,30	0,00	0,00	2.241,70	<b>6.360,99</b>	22.677,00	-16.316,01
4th Interim Report	20	28.206,80	11.017,72	5.150,05	14.982,68	<b>59.357,25</b>	47.232,00	12.125,25
Final Report	27						8.000,00	
<b>Total</b>		49.953,94	22.125,27	9.853,99	26.677,73	<b>108.610,93</b>	155.540,00	-38.929,07

current reporting period

Table 4-2: Detailed resource overview

GENERAL COST CATEGORY DESCRIPTION	TOTAL PROJECT COST PLANNED	TOTAL PROJECT COST SPENT	PER CENT SPENT	PER CENT PROJECT TIME
Direct Costs				
Labor Costs	70.176,00	<b>49.953,94</b>	71,18	74,07
International Travel Costs	26.950,00	<b>22.125,27</b>	82,10	74,07
Domestic Travel Costs	19.790,00	<b>9.853,99</b>	49,79	74,07
Indirect Costs	38.624,00	<b>26.677,73</b>	69,07	74,07
<b>Total Costs</b>	155.540,00	<b>108.610,93</b>	69,83	74,07

Table 4-3: Deviation of resources

As stated in the third progress report a significant amount of resources has been spent in the fourth reporting period due to the intensive work on specification of LOMA 2.0 requirements.

As by end of February 74 per cent of the contractual project time elapsed and approx. 70 per cent of the budget was spent. Upon request by USACE the contractual period was extended until September 27, 2012 without any changes in budget. Giving this potential project extension by 3 months the costs are perfectly in line with the new project time line.

Beside the timely extension of the project by three months there are no additional adjustment measures considered necessary.